GARDEN AND FOREST.

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The Society of American Florists.

THIS association, although young in years, has already become, in the broadest sense of the word, a national organization, embracing in its membership the most prominent commercial growers of plants and flowers in every state of the Union. Subordinate societies, known as Florists' Clubs, have been formed in many cities, and the frequent meeting of these clubs and their vital connection with the parent society make an organization strong and efficient to secure with certainty and promptness every advantage that comes from co-operative effort. Primarily, it is a trade organization, created and developed for the benefit of that rapidly increasing class who have a business interest in growing plants and cut flowers. In a genuine sense, however, the influence of the society reaches all who love flowers and cultivate them, and this influence, so far as we know, has been for good only. In some cases, it is true, the formation of a Florists' Club has been followed by the sudden death of the local Horticultural Society, but societies with such feeble vitality have little excuse for surviving. There is no essential conflict between the trade-associations, whose work lies in one special direction, and the horticultural societies, which occupy a broader field for purposes other than commercial. The two associations should be mutually helpful, and all the more so when each is held strictly to its distinctive work. Certainly a horticultural society falls short of its highest aim when it is managed so exclusively in the interest of trade that the establishment of a florists' business club in its neighborhood leaves nothing for it to do.

Horticulture, in the fullness of its meaning, is a domain which this association and its offshoots do not attempt to occupy, and yet while working in their restricted field and for a special purpose, the meeting of the florists here in annual convention this week has awakened more general attention than any similar gathering in recent years. This is partly owing to the fact that the promised attendance will be much larger, that the subjects announced for discussion are of greater practical interest, and that the exhibition of plants, flowers and florists' appliances will be more varied and extensive than at any former meeting. But behind all this is the additional fact that flowers and floriculture have a deeper hold upon the affections of the people every year, especially in New York, the centre of the most important Rose-growing district in the country, and the market in which more cut flowers are sold than in any other city on the globe. The cultural questions discussed will be an education to amateurs as well as to the members, and so will all information relating to the special habits and uses of different plants, to the use of insecticides, to the construction of green-houses, and to other matters of practice. In a wider sense every discovery made and every forward step taken, that will prove helpful to the members from a business point of view, will also be of advantage to the buyer, as it enables him to secure plants and flowers with less trouble and expense. The reduction of postage on plants, seeds and bulbs, for example, which has just been effected, largely through the labors of this organization, will make it possible for all who buy plants to secure larger ones and more of them at the old rates, not only through the mails, but by express as well, for express charges will be reduced as they come in competition with the post.

To the members themselves the value of these gatherings can hardly be overestimated. The production of flowers under artificial conditions, and at unnatural seasons, together with the weakening effect of high cultivation and the inbreeding of varieties, have inevitably developed diseases and pests hitherto unnoticed or unknown, and in the study of these difficulties a comparison of experience by men from widely separated regions is an invaluable aid. Nor will this interchange of experimental knowledge be confined to any single topic, but will be found of value throughout the entire range of commercial and cultural practice. And again, the instruction thus imparted will not be derived alone from the formal addresses and the still more suggestive discussions that follow them. One of the leading plantsmen of the country recently stated that a suggestion dropped by a fellow member in a casual conversation at a meeting of the Association in Chicago had enabled him to save thousands of dollars in glazing his green-houses alone. Apart, then, from the recreative and social features of this meeting, from the instruction and pleasure offered by the exhibition, which will illustrate the most progressive practice in every department of floriculture and floral decoration, and the advantages that come from travel and enlarged acquaintance, the intimate association for days together of several hundred alert business men, engaged in the same pursuit and studying the same problems, must tend to give every member fresh ideas, quicken his spirit of enterprise and broaden his mental horizon.

The Society of American Florists has already accomplished enough to justify the hopes of its founders, to merit the good will and command the respect of all who are interested in floriculture. It is under the guidance of intelligent and progressive men, and it is destined to wield a still more important influence as the great industry which it represents continues its wonderful growth. It is only when we consider how largely the public is dependent upon nurserymen, seedsmen and florists for instruction in practical horticulture, and to what extent the buyer's selection of varieties is controlled by the illustrations in their catalogues, the trees, shrubs and vines in their trial grounds; the floral displays in their shop windows, and the discussions in their societies, that we begin to realize the public importance of these gatherings. Fortunately the tendency of these meetings, so far as they are educational, is towards greater simplicity and naturalness in the way of decorative planting and floral arrangement. A steady progress in this direction is manifested in the trade from year to year, and if the time should come when the leading members of the Society are not as conspicuous for good taste as for business enterprise and ability, it will not be the result of the deliberations at these assemblies.

Spring-Flowering Bulbs.

THIS is the season of the year when the catalogues of the Dutch bulb-growers should be carefully studied, and when people should determine what bulbs they will plant for the decoration of their gardens in spring and where and in what manner they shall be planted. The bulbs need not be placed in the ground until October or even until November, but it is well, in all that relates to the garden, to take time by the forelock, and not to put off the planning of planting operations until the planting time actually comes. And if the bulbs are imported direct from one of the great Dutch bulb-farms, as is the most satisfactory and economical method if many plants are needed, six weeks at least will pass after the order is sent before the bulbs arrive, so that if it is sent late in the present month or early in September, the plants will not arrive too early for autumn planting.

The cultivation of hardy spring-flowering bulbs is one of the most delightful, as it is one of the most satisfactory of all forms of gardening. Many of the plants classed under this head yield flowers which no inhabitant of the tropics can excel in delicate charm or in gorgeous splendor. No plants are more easily cultivated, and none give so much pleasure for the small amount of money which they cost. Many of them increase and multiply without care, beyond the first planting, and, once established, go on flowering year after year almost indefinitely.

There is a charm in these early spring flowers, appearing among the melting snows, the first indication that the long winter has come to an end, which each year grows stronger and stronger, and which no other feeling inspired by the contemplation of Nature's workings ever quite resembles. Men tire of the most splendid Orchids of the tropics, of the masses of color which modern horticulture spreads over the Chinese Azaleas, of all the garden show and gorgeousness of these later days, but who has ever tired of a Snowdrop or a Daffodil in early spring?

There is a much larger variety of hardy spring-flowering bulbous plants than are usually met with in American gardens, which, by a proper selection, may be made gay or interesting with them from March until July, or from the time when the earliest Snowdrops and Crocuses appear, until the blooming of the so-called Spanish and English Irises in mid-summer. Many new species and varieties of the Crocus have been introduced into gardens of late years, and the blooming period of the plants of this genus has, in this way, been materially prolonged. Among Squills there are many charming flowers blooming in succession during six or seven weeks. The number of different Narcissus which can now be grown is almost endless. The attention which has been bestowed upon these plants of late years in England, by botanists and by gardeners, is one of the most interesting phases of modern horticulture. It has resulted in the reintroduction of many species of Narcissus long lost to gardens, and in the production of many new hybrids of more than passing interest and value. The Tulip and the Hyacinth are too well known to need mention here; except to call attention to the fact that many of the species of Tulip, which have been described at different times in the columns of this Journal, exceed in beauty as they certainly do in interest, those of the more familiar garden races. They should find place in every garden, with quantities of Narcissus and Squills, Alliums and Snowdrops, Snowflakes and Crocuses, Frittilaries and Dogtooth Violets, Ornithagalums and Lilies-of-the-Valley. There never was a garden in which there were too many of these plants, or in which some corner could not have been found which might have been made more attractive by their presence.

Persons who have only seen spring flowering bulbs in formal garden beds can form but a faint idea of the pleasure which can be got from them when they are planted in natural groups or masses along the borders of woodwalks, in the fields among grass, or in the rough and unkept parts of the garden. Our illustration upon page 306, representing a quantity of the Poet's Narcissus, and of one of the late blooming tall Squills (*S. campanulata*), grown in this way near a wood-walk in a garden in Massachusetts will serve, perhaps, to give a slight idea of how such plants can be properly associated together, and how their greatest charm and beauty can be brought out.

All bulbous plants, however, cannot be satisfactorily used in this way. A garden Tulip or a garden Hyacinth planted in the grass appears as much out of place as a Dock in a trim parterre; but all the Narcissus look better in the grass than in a border, especially the Poet's Narcissus, and the Jonquil. Crocuses are more attractive when planted in this way than in formal beds or as edgings, although they harmonize less perfectly with their surroundings than Squills, all of which look their best when allowed to run wild. Many bulbs last longer and increase more rapidly when left to themselves in this way, than when planted in borders, from which it is often necessary to remove them. It is essential, however, that all these plants should be allowed to thoroughly mature and ripen their foliage. They cannot, therefore, be planted in grass, which is cut early in the season, and even if this were not the case, such plants springing from closely cut turf look less at home and less natural than when they grow among tall grasses or the wild plants which are found along the borders of woods or on rocky banks. These bulbous plants delight almost universally in deep, rich soil, and if they are to be naturalized, and are expected to flower year after year, and to increase, it should be provided for them when the bulbs are first planted. If this is done, no further care or attention need ever be paid to them; and every year when they bloom, the fortunate possessor of a garden in which such plants thrive, will rejoice with a new and ever increasing joy.

Mr. John Kenrick established in 1797 a commercial nursery of ornamental trees in Newton, Massachusetts. Two acres, a large piece of ground for such a purpose at that time, he devoted to the cultivation of the Lombardy Poplar, which was about the only ornamental tree for which there was any demand in those days. It is worthy of remark that the Poplars which Mr. Kenrick and others propagated and distributed by thousands and by tens of thousands early in this century have now nearly all disappeared. Here and there a decrepit and half dead Lombardy Poplar may still be seen in the Eastern States, but their beauty is a thing of the past, and each year reduces their number. It is not old age alone which affects them, for young trees, after growing during a few years with vigor and rapidity, perish by piecemeal, branch after branch falling away without any apparent cause; and it is not the climate of America which is fatal to this tree, for it is disappearing in Europe in the same manner. These trees abounded in France, in Germany and in Italy half a century ago; now they are comparatively rare in those countries, and the specimens which remain are not more healthy than those seen in the United States. It is not improbable, therefore, that the Lombardy Poplar will disappear entirely. All the individuals of this tree, which is considered an abnormal form of the Black European Poplar, have descended probably from one or from a comparatively few individuals whose peculiarities and weaknesses of constitution have thus been handed down from individual to individual without change, and without the infusion of new blood which plants derive from cross-fertilization among individuals of the same species, or by the hybridization of nearly allied species, and without which no race can endure for any considerable period. Cases are not unknown where plants propagated exclusively by division, for the purpose of perpetuating some peculiar characteristic not transmitable to their offspring in the natural way, have entirely disappeared; and this will probably prove true, sooner or later, of many trees of

abnormal habit like the Lombardy Poplar and of trees with peculiarly cut or variegated foliage, although there is always the chance that seedlings will appear with similar peculiarities to renew the race with fresh blood. The Purple Beech, for example, so potent is the peculiarity to which it owes its name, often comes true from seed; but individual peculiarities of this sort are not, as a rule, very firmly fixed in the case of trees, and cannot be depended upon to repeat themselves with much certainty. It is fortunate that they cannot, and that many of the monstrosities in which modern planters so delight are blessed with feeble constitutions, and are doomed to disappear entirely off the face of the earth. But the failure of the Lombardy Poplar is not a blessing. Planted as it was a hundred, or even fifty, years ago, in all possible situations, without regard to its surroundings or to the positions in which it was placed, it did more, perhaps, than any tree which has ever been planted, especially in some parts of Europe, to disfigure the landscape. There is no tree, however, which can take its place, or which can so quickly send up a tall, slender shaft to break a low or monotonous sky line. It became an unpleasant feature in the landscape only when it was used without judgment and without discretion.

A Wood Picture.

WE are sometimes told that Nature hides her choicest products from all but those who are willing to search for them in the more secret recesses of her great laboratory of beauty—that she spreads indifferent things before the indifferent world, and reserves her loveliest for her true lovers. But the charge is hardly a just one. Generally speaking, the most beautiful plants are not the rarest. It is truer to say that to many eyes the rarest will always seem most beautiful, simply because of their rarity.

But if we speak not of the things which grow, but of the way in which they grow—not of Nature's productions as such, but of the arrangements, the compositions, the pictures into which she weaves them—then we may confess that no one understands her power who is familiar only with roadsides and meadows and the trodden paths of the woods; and no one who, in more secluded places, takes account of the large things but overlooks the small. In the heart of the forest or the depth of the swamp or by the tangled margin of the lowly rivulet we must search amid Nature's little things to find what she can do in the way of producing varied, delicate, subtile and tender effects of beauty. One such effect I found not long ago which seemed to me to deserve description quite as much as any of the conspicuous features of the very beautiful Catskill country I was visiting.

In the heart of a moist hillside forest, chiefly composed of young Beech trees, thickly bestrewn with large boulders, and carpeted with rich patches of Fern, I found a smooth, gray trunk set close to a low, rounded rock, beside which the Ferns grew in tall, feathery tufts. The top of the rock on the side furthest from the tree sloped gradually into the ground, and was covered with green Mosses and a tangle of Strawberry vines, from which the scarlet fruit hung profusely in scattered bunches. Close to the tree the rock was bare, but in a hollow of its surface the large-flowered Wood-sorrel (*Oxalis Acetosella*) had taken root, forming a great cluster of drooping, heart-shaped leaves spangled with white, starry blossoms delicately veined with pink. A fissure in the stone began near this hollow, passed around to the front of the rock, and slanted across its face to the lower corner beneath the Strawberry vines, and all along this fissure the Oxalis had spread so that a garland of leaves and flowers seemed to have been thrown around the stone. No artist could have imagined anything so exquisite—could have chosen materials which contrasted so effectively yet harmoniously in form, texture and color alike, or could have disposed them with such skill that there should not seem a leaf too many or a flower too few, a line out of place, a color too strongly emphasized, a detail of any kind that might be altered without detriment to the general effect. And what artist could have executed any idea with such delicate completeness that the closer one looked the more beauties one discovered?

It is things like these that one finds in the woods for the looking, but never finds unless one looks. Stones and Beech-trees and Ferns, Strawberries and Moss and Sorrel, are common things enough, but it is only where Nature is most quietly at home, where the foot of man comes seldom and the hand of the flower-gatherer has not trespassed, that she perfects such lovely pictures with common materials, and shows them to us in their dewy, fresh completeness. *M. G. van Rensselaer.*

Foreign Correspondence.

London Letter.

THE interest of the meeting of the Royal Horticultural Society on July 10th was centred in the new hardy plant, *Ostrowskia magnifica*, which has flowered for the first time in Europe in the nursery of Veitch & Sons. This plant has been pronounced by such men as Herr Leichtlin, of Baden-Baden, to be the finest of all the Campanula family, and these great expectations have been realized, as it turns out to be a grand plant, and certainly not rivaled by any other herbaceous plant of a similar description. When full grown it is from four to five feet high, with the fleshy root-stock of many other campanulaceous plants. The short stems rise erect as straight as a gun barrel, and the large, sessile leaves are arranged in whorls at intervals of a few inches. Surmounting each stem is a huge flower, fully six inches across, in form like a shallow cup, and deeply divided into eight lobes. The color is a delicate mauve, traversed with a network of pencilings and veinings of a deep purple, while here and there the color deepens. The flowers look at first sight more like those of a large Clematis than a Campanula, and it is scarcely credible that such a plant is hardy. Lovers of hardy flowers are in raptures about it, and a brilliant future is predicted for the plant. The vote for a first-class certificate to it was unanimous in committee. It comes from central Asia, in the Turkestan region, and its introduction is due to Dr. A. Regel, who, above all other men, has made us acquainted with the vegetation of this comparatively unknown region.

Among the new Ferns, one named *Gymnogramma Pearcei robusta*, is the embodiment of elegance, and is perhaps the most delicately beautiful of the genus. This variety is remarkable for a stronger growth than the type, and is so different that one would not be likely to confuse the one with the other. The fronds are cut very finely, and being of a peculiar shade of bright green are most attractive. This was shown by Messrs. Veitch. A crested form of the well-known green-house Fern, *Pteris tremula*, was deservedly admired. Every one knows how graceful the original is, and though this new sport does not gain in elegance, its tasseled pinnæ give it a singular appearance. As the fronds are long and recurve, it is thought to be highly ornamental, and one that will take with the market growers.

Messrs. Veitch again showed a large collection of their new seedling green-house Rhododendrons of the Javanese group, and the committee selected for a certificate a very beautiful sort called Souvenir de J. H. Mangles. The flowers are very large, compared with older sorts, of good shape and color, and of thick texture; they are a lovely salmon-orange.

Messrs. Paul had splendid blooms of their new dark Rose, Grand Mogul, which already holds a high place among deep crimson Roses. It is as fine as A. K. Williams

in form, is very full and of good build. The color is of the deepest and richest, and the perfume very sweet and powerful. Duchess of Albany is a sport from La France, and differs in no way from the old sort except in a greater depth of color.

Allium Pedemontanum, the finest of all the ornamental Onions, was beautifully shown by Mr. Ware, of Tottenham, and though an old plant now, it had never before been exhibited in such perfection. Nobody would take it for an Onion, so very unlike one are its drooping heads of bell-shaped flowers of a rich, deep violet purple, which, moreover, are devoid of the objectionable garlic odor that accompanies others of the genus. It comes from Piedmont, and no doubt it is quite hardy in America, where it will be considered, no doubt, among the choice bulbs for the rock-garden.

There are few American visitors to London interested in gardening who do not pay a visit to Mr. Cannell's nurseries at Swanley. It is one of the few great nurseries in this country where soft wooded plants of all kinds are grown exclusively. They are for the most part green-house plants, and some of these are grown on a large scale. There is now a bewildering array of plants in the height of their flowering season, but undoubtedly the leading attractions are tuberous Begonias, single and double Pelargoniums, Cannas, Gloxinias and Fuchsias. The Begonias are truly wonderful, and though we are accustomed to see the cream of the new varieties at the Royal Horticultural exhibitions, one can have no idea from these of the effect of a great houseful. The race of Swanley Begonias is remarkable for sturdy and compact growth, enormous flowers, in outline as near a circle as possible in a Begonia, and yet Mr. Cannell says he shall not cease raising new sorts until he can strike a true circle with a compass from the centre to the outer edges of the petals. The colors, too, are as remarkable as the growth, for the entire gamut of tints, from the most brilliant scarlets and the deepest crimsons to pure white and clear yellow, is represented, and yet this dissatisfied nurseryman will not rest contented till he gets a blue or a purple Begonia. The half tones are to me the most charming, especially those in which there is a mixture of yellow and scarlet, or, as some call the tint, yolk-of-egg color. In a new group recently raised and appropriately called "Picotee edged" the petals are white or some delicate tint, with a strongly marked edging of rich color, such as crimson. Others, again, have scarlet crimson or pink petals with a conspicuous white centre. I am afraid I shall be accused of exaggerating if I state that I measured some of the single Begonias and found they covered over six inches of my rule, and some of the double ones which look more like Pæonies than Begonias, are over five inches across and make dense globular masses of petals like satin rosettes. There are perhaps more admirers of the double than the single varieties, but for effect in a mass the former are not in it compared with the latter as any one may see at Swanley with houses full of each side by side.

Another class of plants in full blow at Swanley is the hybrid Cannas. These are quite new to most people, who will scarcely believe that such a glorious race of plants have evolved from such insignificant material as the old Indian Shot (*C. Indica*). Probably other species of Canna have been used by the hybridist in the production of this new race. These Cannas have flowers as large as those of a Gladiolus, and on account of their irregular flowers, they pass very well for Orchids in a cut state. The colors are very strange. Odd mixtures occur among them, such as bright yellow spotted with crimson, Indian or Venetian red edged with yellow, crimson flaked with orange, and such like combinations. I could pick out from the Swanley collection a score of varieties in which these strange colors occur, and all the plants bear noble foliage and are very floriferous. The houseful of Cannas had a very fine effect, as the large leafage, itself of various shades of green and purple, acts as a foil to the tall spikes of brilliant hued flowers. The Cannas are planted in free soil (not in pots) in a warm, moist house, and the luxuriant growth and abundant bloom show that such is the proper treatment. Mr. Cannell catalogues the new hybrid Cannas as the "coming plants," and I believe he is not far wrong.

London, July 20th. *W. Goldring.*

New or Little Known Plants.

Magnolia hypoleuca.

OUR illustration on page 305 is the first which has been published, with the exception of that in the Japanese book quoted below, of this handsome Magnolia, one of the largest, and the most northern of the eight species found in Japan, and, economically, the most useful, probably, of the entire genus. *Magnolia hypoleuca** is a common tree in the rich forests which cover the mountains in the southern part of the northern Island of Jesso. Here it attains a height of sixty feet or more, with a trunk diameter of nearly two feet. In habit, if we may judge from the largest plant in this country, it more closely resembles *M. macrophylla* than any other American species, with the same erect trunk covered with smooth, pale bark, and the same wide spreading branches. The stout brown branchlets are conspicuously marked with the round leaf-scars and narrow, stipular rings; and the large, pointed, glabrous leaf-buds resemble those of the North American *M. Umbrella*. The leaves are alternate, or somewhat sub-verticellate toward the ends of the branches; they are broadly obovate, a foot or more long, six or seven inches wide, obtuse, or sometimes shortly cuspidate, rounded at the base, and borne on stout petioles an inch and a half long. They are dark green and glabrous on the upper, pale and covered on the lower surface with short, scattered, white hairs, which are longer and more numerous on the prominent mid-rib and twenty to twenty-four principal veins. The creamy white flowers exhale a delicious fragrance, which may be described as a combination of those of Wintergreen (*Gaultheria*) and of Banana fruit; they are six or seven inches across when fully expanded and appear in New York late in May or early in June. The leathery, petaloid sepals and petals are obovate-spathulate, rounded, or sometimes slightly cuspidate. The stamens and carpels are imbricated on a short, thick receptacle, the brilliant scarlet filaments adding materially to the beauty of the flower. The fruit, which I have not seen, is described by Siebold and Zuccarini as elliptical in form.

The wood of *Magnolia hypoleuca* is straight-grained, easily worked and dull yellow-gray in color. It is the wood commonly used by the Japanese in the manufacture of objects to be lacquered; it is preferred for sword-sheaths, and the charcoal made from it is used in polishing lac.

Magnolia hypoleuca was first sent to this country in 1865 by Mr. Thomas Hogg, and planted in his brother's garden in Eighty-fourth Street by the East River, in this city, which for many years was the most interesting spot in the United States for lovers of Japanese plants.

This tree is now twenty-eight feet high, with a trunk thirty-one inches in diameter three feet from the ground; and it will be a misfortune if the improvements now being made in that part of the city necessitate its destruction.

The northern and elevated range of this species, and the fact that Mr. Hogg's specimen has grown so rapidly in an exceedingly bleak and exposed position, seem to indicate that this tree will prove hardy in the Northern and Middle States. It has been largely propagated by Mr. S. B. Parsons, at Flushing, Long Island. We are indebted to the Superintendent of Central Park for the specimen from which our illustration was taken. *C. S. S.*

* *Magnolia hypoleuca*, Siebold and Zuccarini, *Fam. Nat.*, n. 349.—Maximowicz, *Bull. Acad. Sci.*, St. Petersburg, viii. 509.—Franchet and Savatier, Enum. Fl. Jap., i. 17.
M. glauca, Thunberg, Fl. Jap., 236 (not Linnæus).
"Kwa-wi, Arb., vol. 2, fol. 2, sub. Tan pakou; Fonoki."

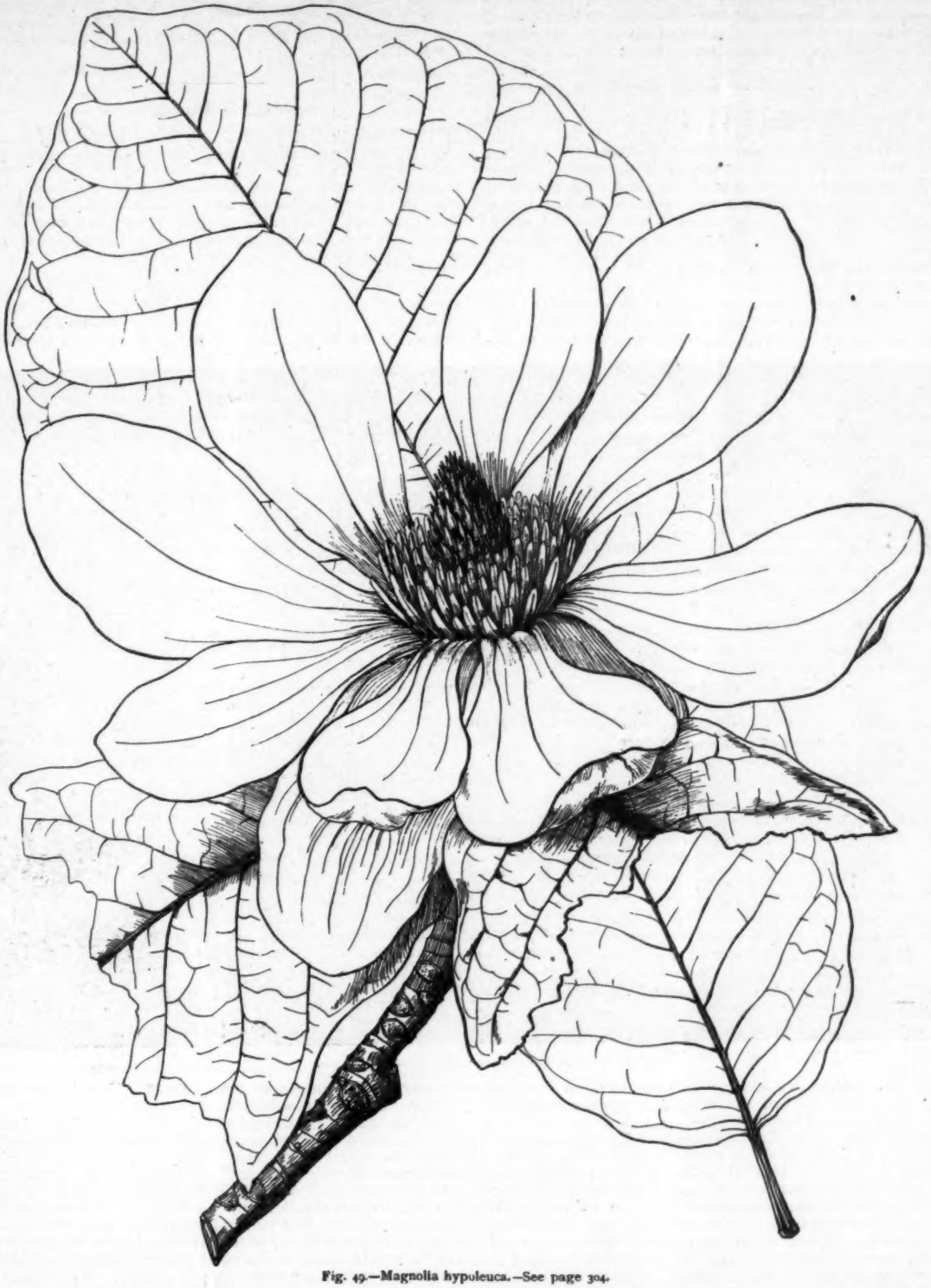

Fig. 49.—Magnolia hypoleuca.—See page 304.

Cultural Department.

The Vegetable Garden.

VEGETABLE gardening is very well done around Boston and the gardeners there try to have everything of the best. Just now, in early August, Tomatoes are beginning to ripen, Peas are moderately plentiful, Celery has been planted out, and of Beans, Corn and root crops there is a full supply. Charles Sander, gardener to Professor Sargent, maintains a capital succession of vegetables. For Sweet Corn he uses Cory for early, and Crosby's for the main crop. He grows more of Livingston's Perfection Tomato than of any other. He is partial to Dewing's Turnip Beet and claims to get an even strain of red-fleshed roots. My experience has been different; I have always had some crimson-red and others a good deal banded

with white. Although white or striped-fleshed Beets may taste as well as crimson fleshed ones, they do not look as well upon the table, and therefore should not be used. For Snap Beans he uses Mohawk, Valentine and Black Wax. For Onions, Silver Queen, Red Globe and Yellow Danvers. For Celery, White Plume and Boston Market. He earths up White Plume to make it tender, and sprouts Boston Market to confine it to a single head. Nearly all the private gardeners grow Boston Market to one head, and grow it for a main crop. Now this is a troublesome way. Golden Heart is just as good a Celery as Boston Market and it generally confines itself to one heart and by using it we do away with much of the labor spent in sprouting. But Boston Market keeps best of all Celeries; we usually have it till the end of April. Market gardeners usually plant Celery in single rows, private gardeners often in double rows and in trenches a few inches under the ground level. Mr. Robinson, of Easton, had his Celery on the level, because he thinks this a preventive of rust. But no matter whether it is planted on the level or in shallow trenches rust will appear, and where land is dry and sandy it is essential to plant in shallow trenches to help retain moisture, for the great point in Celery growing is to keep it moist and in vigorous growth from the time the seedlings appear till the plants are stored for the winter.

Mr. Sander considers Fotler's Champion Erfurt one of the best Cauliflowers. Sown about the first of February, and grown along in pots, then planted out in spent hot-beds, twelve plants to a three by six foot sash, he begins cutting Cauliflower early in May. Veitch's Autumn Giant does not do well with him. It does very well here and gives good heads from October till January. Of course if it has not hearted before frosty weather sets in it is lifted and heeled in close in cold-frames.

Mr. Sander finds Christiana the best of all Musk Melons; it never fails to bear and ripen a heavy crop of fruit. He saves his own seed from the finest early fruit. About New York Christiana is a most uncertain variety, seldom of any good whatever with us. Hackensack is our most reliable variety, but it is a large, coarse melon. Emerald Gem has been very satisfactory for the past few years. Surprise is our best red-fleshed melon.

Mr. Sander grows Cuthbert and Brinkle's Orange Raspberries. The latter is somewhat tender, but he lays down and covers the canes with earth in winter, and with this treatment finds it hardy enough. He would be willing to confine himself to Sharpless and Belmont for Strawberries, the latter being the best in quality.

Glen Cove, N. Y. *Wm. Falconer.*

The Plum.

THE cultivation of the Plum in some sections of the country when confined to the foreign varieties, is getting to be quite as precarious as that of the Gooseberry, and hereabouts, at least, it is more uncertain than that of the Peach. If the trees grow they produce a crop of black knots. If they bloom freely and set a full crop of fruit it too often rots before it ripens. We only manage to save the fruit by canning it as soon as it approaches maturity. And yet the time was when the older of the improved varieties, such as Washington, Jefferson and Yellow Egg, yielded good crops, while Damsons and Blue Gages came up in our yards spontaneously and bore abundantly. If this Plum rot is due to a fungus similar to the Grape rot we might discover some remedy or employ the same or similar means to stamp it out. Here is a good subject for our mycologists to study.

Hardy Bulbs Blooming in the Grass.—See page 302.

Until the growing of choice Plums is attended with less risk than at present, it is well worth while to pay some attention to our native varieties, of which the Wild Goose is the most prominent and widely known. Its advent was heralded with great promises, but so many different types have been palmed off on fruit-growers that the results have been more varied than satisfactory. The general complaint was unproductiveness, and this was finally attributed to defects in the flowers, and the remedy proposed was to plant it among other kinds that would supply the deficiency in pollen. My original tree stands among a number of other kinds amply able to furnish all needed pollen, and yet it has never been more than fairly productive, and this year is almost an entire failure. The fruit is of an attractive scarlet color, an inch and a quarter in length, with a cross diameter a trifle shorter. It is not a very desirable dessert fruit, but does very well for cooking and preserving. Other trees, sold under the same name, bear fruit not more than half the size. The name Wild Goose is therefore no guarantee as to what the fruit will be.

From sources apparently trustworthy we hear of native varieties much superior to the best of those we have grown under the name of Wild Goose, and it would not be surprising if our best and most reliable Plums were in time developed from this native stock. I have tested but one other Plum of this class, the Reed, which originated at Hightstown, New Jersey, some years ago. It is a splendid scarlet or crimson fruit, perfectly round, and about an inch in diameter. It is also a regular and abundant bearer, so much so that I have counted on a crop in advance with certainty until this season, when, for the first time, it has failed. Like the Wild Goose, it is not of first quality, and will not compare with Bevay or Green Gage, but it is better than no Plums at all. Mr. J. W. Kerr, of Denton, Maryland, has about forty varieties of these Plums on trial, according to the Delaware *Farm and Home*, and among them are some of much promise. Near Carbondale, Pennsylvania, some years ago, I saw profuse crops of Plums in many orchards. The trees were all seedlings, I was told, that came up spontaneously, reproducing themselves with little or no variation. They were of the Damson type in size and color, and it was said that the crop was not an unusual one.

Here seems to be a field for the enterprising hybridizer. If a dash of blood from some of our choicest kinds could be worked in with our sturdy native stock, a strain of this fruit, better adapted to our soil and climate, or, at least, better able to repel the attacks of fungus-disease than any we now have, might be produced.

Montclair, New Jersey. *E. Williams.*

Ferns for Basket Culture.

WHILE the use of Ferns for decorative purposes has largely increased of late years, and especially for house decoration and as an adjunct to cut-flower arrangement, yet there are many most interesting species which seem to have been neglected, or rather have not received the amount of attention they deserve. Some of these are particularly adapted to basket-culture, and it is hard to find a more graceful or beautiful object than a well-grown Fern-basket, be it filled either with one variety alone, which is the best plan, or with several sorts. Some Ferns are more attractive when grown in this manner than in any other, as their habit of growth is exhibited to much better advantage when suspended from above. One or two examples from the charming family of Maidenhair Ferns should lead the list.

Adiantum ciliatum is decidedly one of the best fine-growing basket Ferns we have. Its gracefully arched pinnate fronds are from twelve to fifteen inches in length, slightly pubescent, and sometimes pinkish when very young. The fronds of this species, like those of *A. caudatum*, which it somewhat resembles, are proliferous at the apex, and consequently when the young plant appears on the frond it should be pegged down so as to encourage it in rooting, and in this way the entire surface of the basket may soon be covered. *A. dolabriforme* is another excellent sort for basket use and very distinct in appearance, having pinnate fronds from one foot to eighteen inches in length, the rachis being black and shiny in the full grown fronds. The color of the pinnæ varies from a delicate green in the young fronds to very dark green in the matured growth. *A. dolabriforme* is also proliferous, and a rapid grower, so that a good specimen may be soon obtained. Another genus of Ferns, several of whose species make good subjects for basket culture, are the Davallias, the following being among the most useful for this purpose. *D. dissecta*, a well-known and free-growing variety with tripinnate fronds from one to two feet in length; *D. pentaphylla* is also a very handsome and distinct species, having glossy green pinnate fronds from ten to twelve inches long, which by their bright appearance give a charming effect to the plant. It is an evergreen, and though a native of the Malay Islands does very well in a temperature of fifty-five to sixty degrees. Another very pretty sort is *D. Tyermannii*, when well-grown. It has tripinnate fronds from six to eight inches in length, dark green in color when full grown, but in a young state the fronds are often marked with silvery pink.

Among the stronger growing Ferns suitable for basket work, we may mention *Nephrolepis pectinata* and *N. tuberosa*, also the "Stag's Horn Fern," *Platycerium alcicorne*, the strange growth and oddly shaped fronds of which are always interesting. All of the above list are of free habit and easy cultivation, and may readily be grown in a temperature of from fifty-five to sixty degrees.

Their chief requirements are shade and an abundance of water when well established. As to soil, a compost of equal parts of light loam and peat with a fair proportion of sand and a little broken charcoal will be likely to give a good result.

Holmesburg, Pa. *W. H. Taplin.*

Whitewash for Rose-beetles.

REFERRING to Mr. Pearson's experience in fighting Rose-beetles, as related in a late issue of GARDEN AND FOREST, let me present some notes of an experiment undertaken by Mr. E. A. Dunbar, an extensive fruit-grower of Ashtabula County, Ohio. Last year he sprayed his Peach-trees with Paris green mixtures, of various strength, when the Peaches were half grown, to stop the ravages of the Rose-bug, continuing, in some instances, the application until the foliage was half killed and dropped off; but the bugs were not diminished, and seemed rather to thrive on the poison. Hand-picking was tried, but with unsatisfactory results.

Early in June, this year, I advised him to try spraying his Grapes and Peaches with a mixture of a peck of air-slaked lime to a barrel of water, putting it on so thick that the foliage and fruit would be well coated with lime when the water evaporated.

In a letter, written July 23d, Mr. Dunbar says: " . . . A thorough application of the remedy advised was undoubtedly the means of saving many dollars' worth of fruit. . . . The Rose-bugs appeared this year about June 12th. One application of a coal-oil emulsion to a few Grape-vines and Rose-bushes killed most of the bugs which were there, but others soon filled their places. I then mounted a Field force-pump on a forty-gallon cask, set on a stoneboat, and slaked about a peck of lime for each barrel of water, and the motion (of the boat) kept the lime in suspension. One man worked the pump, and another directed the spray, on one side of one row of Grape-vines at a time, as fast as the horse walked down the row, and we soon had the vineyard thoroughly whitewashed, and the lime well on the fruit under the leaves. I was disappointed at first in apparent results, as the bugs continued to be quite numerous, but after a few days they vanished, having hurt the Grapes very little, and I have a heavier crop than for several years past. Few Rose-bugs had attacked the side of my Peach-orchard nearest the house, and therefore I did not visit the further side for several days. When I did the bugs had already destroyed many Peaches. I at once whitewashed the Peach-orchard in the same manner as the vineyard, with the exception of one row, and the bugs all emigrated to that row in the course of a day or two. The whitewash showed quite plainly after several hard rains, and one application was sufficient."

I think the effectiveness of the application would have been increased had a small quantity of crude carbolic acid been added to the lime-water. No danger to the foliage need be apprehended from the application of any amount of lime. At this station this season I have had the fruit and foliage of some Plum-trees thoroughly coated with lime for weeks, and they appear even brighter and healthier than those not treated in this way.

Ohio Agricultural Experiment Station. *Clarence M. Weed.*

Gentians are plants that should be more generally grown. Nearly all are hardy, as far as enduring cold goes. They merely need enough cover to prevent them from being heaved out by alternate freezings and thawings as the winter breaks up. All need a moist subsoil. Though they succeed well in deep loam, a little peat seems to be beneficial to such species as *G. verna* and *G. Bavarica* and two or three other alpine species.

Gentians are impatient of removal or division. I have failed more than once in trying to establish *G. Burseri*, *G. lutea* and *G. punctata*, all grand yellow-flowered species, from the European Alps. The finest specimen of *G. lutea* I ever saw measured five feet high when in bloom. It had been planted in peaty loam, with brick rubbish added, when a seedling, and had taken three years to mature sufficiently for blooming. Most Gentians are slow in reaching the flowering stage. *G. cruciata* and *G. affinis* will sometimes flower the first year from seed. *G. Pneumonanthe*, *G. asclepiadea* and *G. septemfida* require two years.

In order to insure the germination of Gentian seed, it had better be sown in the fall, and wintered over in a frost-proof frame. The time it will take to come up is uncertain. Seed of *G. septemfida* sown in the fall, will germinate fully the following spring, but if kept dry until spring and then sown, it will come up in a straggling way all summer long, and will not fully germinate until the next spring. So it is with most of them, some even requiring three years for seed to germinate. *G. cruciata* and *G. affinis* are the only species, so far as I know, which will germinate quickly after being sown in spring.

G. Pyrenaica and *G. verna* are at home in moist meadows, and seldom do well in cultivation if removed from the grass

which forms the turf in which they grow naturally. *G. Bavarica* is a swamp species, growing and flowering beautifully if the ground is kept spongy with water, and it is the gem of all the dwarf species. The ultramarine blue of its flowers cannot be surpassed. The lovely *G. Kurroo*, from the Himalayan mountains, is the only one which seems partial to shade.

These notes embrace most species in cultivation, but there are many other beautiful species, and varieties of those named above. *T. D. Hatfield.*

Wellesley, Mass.

Sweet Peas.—Of the new varieties of Sweet Peas sent out this season the following have come under my notice: Autocrat, Caprice, Autumn Tints, Venus, Beauty, Apple Blossom, Boreaton, Blue Bird, Johanna Theresa, Capt. Sharky and Tricolor. Of these, Apple Blossom, Boreaton, Capt. Sharky, the variety under the two names, Blue Bird and Johanna Theresa, and Splendor, seem to be distinct. Autocrat is identical with Indigo King, Caprice with Princess Beatrice, Autumn Tints with Orange Prince, Venus with Vesuvius, Beauty with Invincible, Carmine and Tricolor with Capt. Clark.

Apple Blossom, as grown here, does not agree with the introducer's description, which was, "An improved Painted Lady." It is a large, fine flower of a rosy carmine color, edged and blotched with white. Boreaton is very distinct and fine. The standard is broad and smooth, of a dark bronzy color, with darker veins, the wings are purple shaded bronze. One of the finest dark Peas grown, Blue Bird or Johanna Theresa, has a fine, large flower, with bronze standard, and bright, bluish-purple wings and flowers freely. Capt. Sharky is a good variety, which seems to be a sport from Painted Lady. The standard is exactly the same as in the latter, but the wings are rosy carmine. Splendor is indeed a splendid variety, with very large, fine flowers of a deep carmine-rose color. It is one of the very best.

The trade-names of Sweet Peas are very confusing, and some varieties are sold under three or four different names by as many seedsmen. Sometimes old varieties are sent out under new names, and it is worse than annoying to pay for Peas at the rate of two cents and a half each, and then find that the same variety can be bought for twenty-five cents an ounce.

Newton Highlands, Mass. *A. H. Fewkes.*

Cattleya Bowringiana.—This Cattleya has not received the attention due to it, although it is one of the finest introductions of late years. Its blossoms are chaste and very beautiful, fifteen of them being often borne on a single spike and that during the winter months, when Orchid flowers are scarce. The sepals and petals are mauve-tinted rose, the lip being of a rich crimson and the throat yellow. It is a native of Guatemala, where it is found growing luxuriantly on the bare rocks, enjoying full sun the greater part of the year. Very little compost, therefore, is needed about the roots of the plant, but a good supply of air and light should be given its period of growth.

Anguloa uniflora.—This fine Anguloa was discovered by M. Linden when collecting in the mountains of Colombia. It is an Orchid of very easy culture, producing its white blossoms with the young growths during the months of June, July and August, and they remain in perfection (if placed in a cool temperature) for nearly a month. They are so fragrant that a small plant will fill the house with perfume. During growth all Anguloas require copious waterings, and as they are liable to become infested with scale, this pest should be closely watched. Should no signs of this insect appear, they can be kept off by dipping the plants occasionally, say once a month, in a weak solution of tobacco-water.

Oncidium macranthum.—This handsome Orchid, owing to the difficulty in obtaining sound specimens, will always remain, more or less, a rare plant. Its bulbs being soft, decay very quickly when packed in the close cases used for its transportation to this country. It makes a fine Orchid for exhibiting, producing large blossoms in the early spring on very long spikes, often measuring six to eight feet in length,

The Victoria Tank at "Sandyside," Yarmouth.—See page 309.

each individual flower being fully three and a half to four inches in diameter, and of a bright olive-brown and yellow color, remaining in perfection for two or three months. It enjoys a very moist and cool atmosphere, being found at a very high elevation in its native habitat. Imported plants of this Oncidium require very little water until new roots appear, or they will decay very quickly. Good drainage, with fresh sphagnum and fibrous peat, are essential to the best results. *A. D.*

Plant Notes.

The Victoria Regia.

OUR illustration on page 308 represents the Victoria tank in Miss Simpkins' garden in Yarmouth, Massachusetts, where, under the direction of Mr. James Brydon, tropical Water Lilies are grown in great variety, and with greater luxuriance and success than in any private garden in the United States.

Besides the Victoria tank, which is thirty feet in diameter, and heated by pipes brought from a neighboring greenhouse, there is a large octagonal tank fifty feet across devoted to the cultivation of tropical Nymphæas, and filled during the summer months with *N. Devoniensis, N. Lotus, N. dentata, N. cyanea, N. Zanzibarensis,* and other species and varieties. Flowers of immense size are produced in this tank, in which the water is kept heated to a temperature of not less than 80° by means of pipes brought from a boiler specially devoted to this purpose, and to heating a small tank-house used for keeping the Nymphæa roots over winter and for propagating the rarer varieties. A third and smaller tank, which is not heated, is devoted to the white European Nymphæa and to the pink variety of the common Eastern species, which, with the generous treatment here given to it, produces flowers which are nearly double the size of those found growing wild in the neighboring towns of Barnstable and Sandwich.

The Victoria Regia, which is rightly considered one of the marvels of the vegetable kingdom, is too well known to need any description here. It has been in cultivation for more than forty years, and flowered for the first time in the United States as long ago as 1853 in the garden of Mr. John Fisk Allen, of Salem, Massachusetts, who exhibited it that year at different meetings of the Massachusetts Horticultural Society.

The Victoria is found in the tributaries of the large rivers of tropical America which flow into the Atlantic Ocean from British Guiana to Bolivia, having first been detected in 1801 by Haenke in the Rio Mamoré, one of the upper tributaries of the Amazon, in Bolivia.

The seed from which was produced the plant which appears in our illustration was planted in January last by Mr. Brydon in a pail of rich soil, plunged in a small green-house tank of warm water. The young plant was shifted once, and early in June, having outgrown its quarters under glass, was planted out in its present position. The tank during cool days, or when there is a high wind, which tears the leaves, is covered with a cotton awning stretched over a frame, placed some feet above the water, the sides of this temporary structure being closed with tight-fitting shutters. Treated in this way, the Victoria will continue to produce its leaves and flowers until the middle of September, and is expected to ripen seed.

Our illustration serves to show that the stories of the wonderful supporting power of the strongly-braced leaves of this plant are not without foundation.

The Home of the Jacobean Lily.

IT is with some surprise that I hear that bulbs collected last autumn on the foot-hills of the Cordilleras of western Chihuahua, having flowered at Kew prove to be *Sprekelia formosissima.* So near our borders! The bulbs were found about six inches deep in light brown soil of ledges or rocky hills, dry situations, where the plants were not crowded upon by many other species. Buried at this depth it is very likely that the bulbs are out of reach of frost. The plants were in leaf throughout the autumn, and grew sometimes singly, often in clumps, sometimes even in beds, which, at flowering time, probably when the first rains come early in July, must be a brilliant sight. *C. G. Pringle.*

Quisqualis Indica.—This beautiful Indian climbing plant—the Rangoon Creeper—although introduced into cultivation early in the century, is now rarely seen in gardens, in spite of the fact that it is one of the very best of all warm green-house summer-flowering climbers. It has simple, bright green, strongly veined, sharply pointed leaves, four or five inches long, and axillary and terminal racemes of thirty to forty flowers. They have a long, slender, green, tubulous calyx, three to three and one-half inches long, and a spreading corolla of five petals, an inch and one-half across. The petals are pure white when they first expand, turning a bright orange-red the second day. As the flowers open in succession, each cluster contains both white and red flowers, which contrast beautifully with each other and with the brilliant foliage. The flowers last a long time when cut, and are admirable for decorative purposes, especially in the evening, as few flowers light up better than those of the Quisqualis; and it is remarkable that florists have so long neglected this plant. It does not bloom freely when the roots are confined in a pot, but when planted out in a rich border with plenty of room, it will soon cover a space twenty feet square, and produce bushels of flowers from June until October. After the flowering period it should be cut back hard to the old wood; and as it does not start to grow again until towards spring, it does not shade or interfere with the plants placed under it in winter. It is absolutely free from all insect pests. There is a second species, *Q. parviflora,* from Natal, which is not in cultivation.

Quisqualis is formed of two Latin words, *quis,* who, and *qualis,* what kind, a name bestowed upon the plant because botanists were for some time in doubt to what family it belonged. It is now considered a member of the *Combretaceæ* represented in the North American Flora by two litoral trees of semi-tropical Florids, *Conocarpus* and *Laguncularia.* *D.*

Clematis Davidiana is a free-flowering, herbaceous species from northern China and Mongolia, with stems two to three feet high, large foliage and sessile axillary clusters of pale blue, tubular, deliciously fragrant flowers, which continue to appear from the 1st of August until frost. They last a long time when cut, and are esteemed by the few persons who know this plant for indoor decoration, on account of their peculiar color and for their fragrance. This, as well as two other closely related autumn flowering, herbaceous Clematises, *C. tubulosa* and *C. stans,* are well worth the attention of florists with a summer and autumn trade. *C.*

Notes From the Arnold Arboretum.

THE Sumachs, as the different pinnate-leaved North American species of Rhus are popularly called, are all valuable ornamental plants. *Rhus venenata* is the first to bloom, its drooping racemes of inconspicuous flowers appearing in June. This is the most virulently poisonous plant found in the United States. It has much beauty, however; and the coloring of its autumn foliage surpasses in brilliancy that of almost every other native plant, and makes it late in the season the chief ornament of many swamps in the Northern and Eastern States.

The Poison Sumach is followed a few weeks later by the great Stag-horn Sumach (*R. typhina*), a small tree, widely and commonly distributed through Eastern North America; and one of the most ornamental of all American plants in foliage, in flower and in fruit, and especially in the coloring it assumes in autumn. It is not often planted in this country, for the reason, perhaps, that people rarely bring into their gardens the wild plants, which they see in their daily walks, but in Europe, especially in Germany and in France, it is seen everywhere—in city squares and parks, about the railway stations, and in the gardens of the rich and of the poor. And next to ubiquitous Locust (*Robinia Pseudacacia*), it is the American plant which now finds most favor in the eyes of European planters.

The flowers of the Stag-horn Sumach are followed by those of the Smooth Sumach (*R. glabra*), which is blooming just now. It is a handsome shrub, with smooth and glaucous branches; smooth leaves, consisting of many narrow leaflets, which are pale on the lower surface, and immense terminal panicles of yellow-green flowers. It is found on rocky or

barren soil, and is the smallest of the American species, rarely rising to a height of more than ten or twelve feet. There is a variety of this species (var. *laciniata*) now frequently seen in gardens, in which the leaflets are deeply laciniately cut and divided. It was discovered many years ago in the woods in Chester County, Pennsylvania.

The flowers of the Smooth Sumach will be followed in ten or twelve days by those of the so-called Dwarf Sumach (*R. copallina*), which may be distinguished from the other American species by the winged margins of the leaf-stalks, and by the brightly shining upper surface of the leaflets. This plant is dwarf only in name, or rather only at the North, where it sometimes covers extensive tracts of sterile, gravelly soil; but at the South, and especially west of the Mississippi River, the Dwarf Sumach becomes a considerable tree, surpassing the other species in height and in the size of its stout trunk. This is a variable species, especially in Texas towards the south-western limits of its distribution, where botanists recognize one or two well-marked varieties.

The Button Bush (*Cephalanthus occidentalis*) is in flower. It is a stout shrub with erect branches, eight or ten feet high, with ovate or lanceolate, pointed, pale yellow-green leaves, and conspicuous spherical pedunculate heads of small, white fragrant flowers which remain in bloom for a long time. This is a widely distributed plant, from the Atlantic to the Pacific, and in Eastern Asia, growing in low wet ground, often submerged, along the borders of streams and ponds. It grows well, however, inc ommon garden soil, although it will be found most useful when it becomes necessary to plant low, wet and undrained pieces of ground, where it will harmonize well with Alders, dwarf Willows and other water-loving plants.

The last of the Spiræas in flower is the Hardhack or Steeple Bush (*S. tomentosa*), familiar to all northern eyes. It is a handsome plant, which, were it not so common, would be more often seen in gardens. *S. tomentosa* has erect stems, twenty or thirty inches high, covered, as well as the lower surface of the ovate serrate leaves, with a dense brown tomentum, and terminated by a dense panicle of short, crowded racemes of small, bright rose-colored or rarely white flowers. It is found in low, swampy ground, where it spreads rapidly by underground shoots; it is not particular, however, about soil, and thrives as well when transplanted to the garden or to dry uplands as in wet ground.

The flowering of *Spiræa tomentosa* is preceded by only a few days by that of a white-flowered form of *S. Japonica*, often met with in gardens under the names, *S. callosa alba* and *S. callosa Indica*. It is a useful dwarf hardy shrub, remaining many weeks in flower and probably of Japanese or north China origin. It has erect or slightly spreading, somewhat grooved and angled, dark chestnut-brown stems, twenty to thirty inches high, lanceolate, sharply pointed, deeply serrate reticulately veined leaves, dark green above, pale and quite glabrous below. The rather small corymbs of small white flowers on the extremities of lateral branches form a wide and somewhat racemose corymb, often a foot or more across.

The late and long continued blooming period of this plant makes it a valuable addition to the list of hardy summer flowering shrubs.

August 6th. *J.*

The Forest.

Farmers and Forestry.

IN no branch of agriculture, perhaps, do the people of the United States so need instruction now as in all matters relating to the care and improvement of the woods and woodlands connected with farms. It is almost a universal custom with American farmers to neglect this part of their property, and to be satisfied if the wood lot furnishes a little pasturage to their stock and a scanty supply of half rotten or worm eaten wood for the kitchen stove. The following article upon this subject, which is reprinted from a recent issue of the *Canadian Horticulturist*, is full of wise suggestions, as valuable to the farmers of the United States as they are to those of Canada:

"The study of forestry for the purpose of preserving those small remains of our wild woods now left on most farms will probably be the first practical attention given to the subject. When so little is known of forestry it is not surprising that every farm owner has a different theory, not distinct enough, however, to make many of them take any real care of their wood lots, or to say anything about it unless applied to.

"It is generally admitted that the forests ought not to be pastured, and there may be a few lots from which cattle are excluded; but I have not heard of anything more being done, and it would be hard to say what should be the next advice to farmers or forest owners. I notice in the last report on prize farms in Ontario, it is said that on one of the best of them the wood lot was cleaned up and carefully seeded to grass, and that, since the farm has been drained, the black Ash trees are dying. This is a management which seems contrary to all principle of forestry, as far as concerns the growth and life of the trees; for the first requisite in forest life is to keep the ground fully shaded—so much so that grass cannot grow—to keep it moist and free from packing, or the tracking of cattle, and to encourage such a growth that drying winds may not enter.

"It seems to me that as soon as a wood gets so thin that grass is seen its effectual growth is done, and it would pay better to cut off one or more acres and convert into good meadow land, and if need be to plant out an acre of old field with seedlings from the same or other forests.

"I do not find in the best forests more than fifty large trees per acre, and we know that Maples or other trees at eight feet apart (680 to the acre) can be grown till they will make half a cord of wood each; and if they are thinned judiciously, or, in any case, if really in vigorous life, they will increase faster than any old forest.

"To preserve a wood lot, if the trees are only of a fair size, thick enough, and few or no dead tops showing, I think it will answer the purpose if it is fenced into one of the ordinary cultivated fields; what pasturing with cattle may occur in a rotation will not likely injure it, as they will not touch trees if they can get anything else to eat.

"If very open and exposed to winds it would be well to enclose the bush with a fast-growing hedge, and in any really open place put in seedlings till the ground is properly covered. Any enclosed wood I have seen soon gets such a growth of young trees about the margin that it is hard work to get into it, and if the main trees are not too old, will, in time, make a heavy bush.

"But I have no intention of doing this, unless, on a careful survey, the bush turns out better than it appears at a glance. After counting out the large dead tops, the swamp Elms, hollow Basswoods, and short-lived Ironwoods and Balsams, there will hardly be enough worth saving, and these woods have been overrun with stock so long that the undergrowth amounts to little. I intend, therefore, to close off the old brush gradually (keeping stock out in the meantime) one or more acres at a time, as may be needed for fuel, etc., and then in proper place for forest and shelter, or on the land inconvenient to cultivate, begin a new forest by planting out regularly just such trees as I want for fuel, manufacturing or protection, to be ready by the time the old forest has been cut away.

"If the growing trees are of a valuable kind, and the owner has skill and patience to begin and carry on a judicious thinning, an old forest can be rapidly improved, but I fancy most proprietors will leave to a thoughtless employee to do the wood cutting; and it often happens that to pick out inferior or dying scattered trees will make the wood dearer than to buy it, and it may do serious injury. I find it stated in a late Ontario report that an owner removed the worthless Elms from a lot and soon after found that he had done too much thinning, for the other, and, what he thought, valuable trees, ceased growing and soon began to fail, and, as a rule, it will be safer to depend on the new planting for the future forest, at least on such small lots as our farms will retain.

"To me it is much more encouraging, for in laying out the forest, the various trees, the Maple for fuel; the Hickory, Ash and Oak for the factory; the Cherry, Basswood and Walnut for indoor use; the Pine and Cedar for outside, I feel as if I were furnishing the property with an attraction for myself and future owners, more than by the biggest castle I could find room for on the highest hill."

Correspondence.

To the Editor of Garden and Forest:

Sir.—In an upland sink-hole, more than a mile distant from the river, I have recently found the Golden-club (*Orontium aquaticum*). A careful examination of the spot showed that Indians had once lived on the margin of the little pond; and the question arises, did these people plant the Golden-club in the shallow waters before their wigwam doors? It is, I believe, strictly a tide-water plant, and the chances are slight that birds could have transported the seeds from the river or

nearest creeks, where, by the way, it is not abundant. On the other hand, it is well known that the Indians made use of the plant as food. (Vide Kalm's "Travels in North America.")

In May, 1887, I spent a few days in May's Landing, Atlantic Co., New Jersey, and while boating on Great Egg Harbor River, I suddenly came upon an island of about ten acres in extent, that was densely covered with this plant. It was in full bloom, and the tide being out, the effect was grand. At high water, neither the leaves nor flower-stalks were visible. The high western bank of the river, here, too, was once the site of an Indian village, and I have often asked myself the question, if the Orontium island of to-day is the outgrowth of an Orontium plantation of two centuries ago. Our Delaware Indians were to a far greater extent than is generally supposed an agricultural people, and to many, I am sure, it would be interesting to know how far there still remain traces of their labors in this direction. In the former instance, I am inclined to believe, we have such a trace; but so far as the island is concerned, I withhold opinion. Nothing botanically need surprise one who ever wandered about May's Landing. The single street and court-house yard of which is shaded by one hundred and twenty-one magnificent white oaks. It is called a "pine barren," but there are hundreds of acres near by that are Nature-planted gardens. Think of it! On "Children's day" the village church was decorated with fifteen hundred stalks of Xerophyllum.

Near Trenton, New Jersey. *Chas. C. Abbott.*

[The Orontium is a common inhabitant of the wet and swampy borders of ponds, from the neighborhood of Point Judith, Rhode Island, southward, generally near the coast, but is by no means a tide-water plant.—ED.]

To the Editor of GARDEN AND FOREST:

Sir.—The recent discussions in your columns concerning the value of the Norway Spruce as an ornamental tree give fresh evidence of the truth, so often repeated, that advice must be suited to localities. I have often observed the unsatisfactory, unsightly specimens of Norway Spruce in eastern gardens, especially in those near the sea-coast or about large and smoky cities, and I have as often seen admirable specimens of the tree in Michigan and some adjoining states. It is true that this tree is coarse and somewhat harsh in expression, yet it is less objectionable in these features than any other large growing, coniferous evergreen, which is suited to our general conditions. It is easy of culture, takes well to a variety of soils, and even when left entirely to itself, makes a comely and attractive tree. To be sure, it loses some of its characteristic beauty with great age, but in this respect it is not inferior to any other Conifer which has been tried in Michigan. Upon the grounds of the Michigan Agricultural College there are many handsome specimens thirty years old which show no signs of failing. These trees are forty feet high, a foot and one-half or more in diamater at the base, and perfect pyramids of dark, yet soft, green, with an attractive display of light and shade.

But these trees have not been allowed to grow unchecked. Every year or two the main branches have been clipped at the ends with a Waters' pruner, causing the pyramid to fill in and tending to preserve the richness of the lower limbs. An essential operation is thus to nip four or five inches from the pushing shoots of the Norway Spruce every June. It does not appear to be well understood that tolerably old trees of this Spruce may be rejuvenated by a vigorous heading-in. I have seen an old Spruce, which, having become scraggly, was severely cut back. This cutting took place some six or seven years ago. Four or five feet were removed from each main branch and the leader was cut off. For a couple of years the tree presented an odd appearance, but there is now no trace of the treatment to the ordinary observer.

The Norway Spruce varies greatly, fully as much as does the Sugar Maple or the Elm. It is particularly desirable for windbreaks and for single specimens at some distance from the residence. It is true that the tree has fallen in general estimation, even at the West, from indiscriminate planting, yet it has still a foremost place in the affections of our people.

Michigan Agricultural College. *L. H. Bailey.*

[It is, of course, possible that the climate of the interior of the Continent may be better suited for the Norway Spruce than that of the Atlantic seaboard. Thirty years, however, do not suffice to test an exotic tree in any particular locality. Norway Spruces thirty years old in the Eastern States are often at their very best, and handsome and attractive objects; it is not until they are from forty to fifty years old that they begin to fail here at the top and then gradually perish.

It is a good rule that the adaptability of any foreign tree to any particular climate and soil cannot be safely determined until the tree has grown continually in that climate and soil for a period of time equal to the average period of its life in its native country.—ED.]

Periodical Literature.

In *Blackwood's Magazine* Mr. Coutts Trotter is publishing from month to month an interesting series of articles called "Among the Islands of the South Pacific." His concern is chiefly with the condition of the native inhabitants of the various groups he has visited; but incidentally he gives many charming pictures of their wild and cultivated flora. For example, in his last published chapter, on the Tongan (Friendly) and the Samoan Islands he writes: "It would hardly have occurred to us to introduce cricket if there had been no turf to play on, and yet the natives speak of the introduction (accidental) of our grasses as a grievance. One hardly understands the objection, for the grass sward surrounding a Tongan village gives it, for English eyes, its greatest charm; but their ideal of tidy surroundings is the bare ground with every green blade grubbed up. One sees a well-kept Samoan village thus treated, and no doubt, amid the tropical luxuriance of vegetation, it gives a *soigné* look, and the frequent showers prevent annoyance from dust; but it is not our idea of 'Sweet Auburn.' Other plants besides the grasses have been accidentally introduced by ships and are a very serious nuisance, spreading everywhere and taking forcible possession of otherwise useful land. The worst, perhaps, are one or two malvaceous plants (*Sida sp.*), growing from two to four feet high and so thick that you can sometimes hardly get through them. The *Canna Indica*, too, very conspicuous with its bright red flowers and covering acres of ground, only appeared in Tonga a few years ago." And, Mr. Trotter adds, two imported British plants have become very common, the little yellow Oxalis and the Sow-Thistle (*Sonchus*). Around many of the native houses are "enclosed gardens, fenced with Bamboos or with the Croton-oil plant, and always beautiful trees, mostly with showy blossoms, as the Barringtonias and Inocarpus and Terminalia, besides Coco-Palms and Oranges and generally some fine spreading Banyans. . . . You generally find pig-sties, often overgrown and shaded with the double white-flowered Datura, a mass of blossom." Of the Tonga country Mr. Trotter says that it is delightful for riding and walking, as the green roads traverse the forest in all directions and "this is never quite impenetrable, much of it indeed having at one time or other been under cultivation. The monotony of color, a common reproach to tropical forests, does not exist here. Besides the variety of foliage and of blossoms, chiefly white, on the trees themselves, you have masses of varied colors—Crotons and Coleus, a profusion of Convolvulus, of Clitorias and other Peas, and Beans with stout wooden stems, . . . with many other creepers. Not the least beautiful among the trees are the varieties of Citrus.

Notes.

The Puritan Rose has not been planted very largely in the neighborhood of Philadelphia for next winter's supply.

It is probable that a National Orchid Society will be organized here this week, while so many lovers of these plants are in the city.

The large panicles of white flowers now so abundant on the *Hydrangea paniculata grandiflora* are in considerable demand in the flower markets of this city. The flowers are cut with long stems and arranged in tall vases, with spikes of Gladiolus and occasionally with the Golden Rod.

The crop of the popular Pink Pond Lilies has been unusually small this season, owing, probably, to the continued cool weather. These beautiful flowers are grown for the market exclusively in small ponds on Cape Cod, where they originated. The demand for them exceeds the supply.

A farewell dinner was given to Mr. W. A. Manda, the retiring gardener of the Harvard Botanic Garden, on August 11th, by his friends and associates in the gardening fraternity. There were many expressions of regret at Mr. Manda's departure, and of hearty wishes for his success in his new field.

Rudbeckia laciniata is a grand subject for massing by the side of brooks or lakes. It grows to the height of five or six feet. The yellow ray florets droop, while the cone-like centre is larger than that of *R. hirta*—resembling a lady's thimble. It grows wild in limited quantities near Chestnut Hill, Philadelphia.

In experimenting with some insecticides, Professor Forbes found that for Curculio on Plum, Peach or Cherry, one pound of London Purple to one hundred pounds of water was effective. When used in a ratio of one to fifty the foliage was injured, and when used in a ratio of one to 200 the curculio was not killed.

South-western Michigan has become one of the great peach-growing regions of the United States. The strip of land where this fruit finds most favorable conditions is but a few miles in width, but it extends along the shore of the lake for half the length of the State.

A Palm tree, seventy years old, four feet in diameter and sixty feet high, was lately removed from the grounds of a Mr. Saunders at Los Angeles, California, to the grounds of the Wolfskill Station of the Southern Pacific Railroad. A body of earth ten feet square and six feet thick was taken with the roots. The apparatus used was similar to that used in moving buildings.

The exhibition at Columbus, Ohio, which will celebrate the centennial of the State this coming autumn will include a collection of some 700 species and varieties of trees and shrubs planted by Messrs. Thomas Meehan & Son. None of these plants will compete for any premium, and it is to be hoped that visitors will appreciate the opportunity for instruction thus liberally offered.

The cut-flower trade lasts for only six weeks at Bar Harbor. Sweet Peas are very popular there this season, especially the light-colored varieties. Many of the stone walls surrounding the cottages are planted along the crest with Nasturtiums and other flowering vines, producing a beautiful effect. The "Pine and Palm" is one of the most artistically furnished flower-stores in the country. The cosy little office in the rear, with its great stone fire-place, is much admired.

One corner of the famous Luxembourg Garden in Paris is devoted to the cultivation of Apples, and contains an assortment of 232 varieties. About the first of November of each year the harvesting of the fruit is completed, and the Apples are divided into three lots. The lot which includes the finest fruit is a perquisite of the Prefect of the Seine; the second is given to the Val-de-Grace Hospital, and the third is sold to the restaurants of the city. The orchard is also useful as a source for grafts, which are distributed without charge.

Fine varieties of *Salpiglossis sinuata* are seen this summer in the windows of some Boston florists. The flowers of this showy Chili annual have been greatly improved of late years, especially by French gardeners. The colors, which range from dark purple and blue to clear yellow, and are variously striped, are now "fixed," and come true from seed. The plants are easily and cheaply raised, and the flowers, which last well when cut, make an attractive and very useful addition to florists' material.

On Saturday, August 11th, the Garden Committee of the Massachusetts Horticultural Society paid a visit to the beautiful estate of R. M. Pratt, Esq., at Watertown, Mass. They were conducted through the green-houses and grounds by Mr. David Allan, the head gardener, and as this is one of the best kept establishments around Boston, the visit was one of great pleasure. Among the interesting objects shown by Mr. Allan were several large trees in whose trunks or large limbs decayed cavities had been filled with elastic cement, thus excluding the air, and in every case the bark has begun to close up over the cement, with indications of health and vigor.

The La France Rose is a greater favorite with flower buyers in Philadelphia than in any other city. Rose-growers for that market like it, too, and some go so far as to say that it is the most profitable variety they can grow. There is an increase in the number planted for next winter's blooming over last year, which may have a tendency to make it cheaper. Its one fault with the grower is a liability to "black spot," which it shares with W. F. Bennett, American Beauty and Puritan. The Hybrid Teas are more inclined to black spot than any of the true Teas or Hybrid Remontants. Is this tendency in American Beauty to be taken as evidence that it, too, is a Hybrid Tea?

Lælia Eyermanii is a noteworthy acquisition recently introduced by F. Sander & Co., of St. Albans, England, and named by Prof. Reichenbach, in honor of Mr. J. Eyerman, of Easton, Pa., who is an ardent and a most enthusiastic grower of Orchids. The plant is distinct, although resembling *L. majalis*. Its flower spikes are remarkable, having conspicuous well developed leafy bracts at the base of the flower-stems. Several flowers as large as those of *Lælia Gouldiana* are borne on a single spike, with sepals and petals of a rosy purple, and lip of a rich crimson with a fine white throat. Their fragrance is very pleasant, resembling that of *Orchis coriophora*.

In these days of "decorative art" it is interesting to learn that exotic plants are said to have been first cultivated in northern Europe at Paris, for the purpose of furnishing the embroiderers of the time with new and effective patterns. Constructions of glass were used for the purpose and as early as the thirteenth century were to be found in several places beyond the Rhine. Albertus Magnus, the famous "schoolman," and Bishop of Ratisbon was accused of magic by his contemporaries on more grounds than one, but one was his ability to make plants grow and bloom in winter. In January, 1247, he entertained the King of Holland at Cologne, and a feature of the occasion was the exhibition of his forced fruit-trees and blooming plants.

A minute hemipterous insect, *Triphleps insideosus*, closely related to the chinch bug, is doing considerable injury among some of the Chrysanthemum collections near Boston this summer by piercing the ends of the shoots, causing them to "go blind" and the leaves to curl up and wither. The insects are so small and move so rapidly that it is almost impossible to see them, much less to catch them, and there seems no way to destroy them without injuring the plants. Pieces of cloth, which are kept saturated with kerosene oil, and bound around the ends of slender stakes, stuck in the ground among the plants so that the saturated cloth is about on a level with the ends of the shoots, seems to have the effect of driving away the insects, or, at least, a part of them, and may be the means of saving many flowers.

Mr. L. W. Goodell, of Dwight, Massachusetts, has flowered, this year, a plant of *Euryale ferox*, a native of India and China, and, next to its near relative, the Victoria, the largest aquatic plant known. Like Victoria, it is an annual, with spiny, strongly-ribbed, circular leaves, fully two feet across, and armed flower-stalks and calyx, but the flower is violet in color, and not larger than that of the common wild Water Lily. This plant is said to flower freely in the open air in Pekin, where the climate is not unlike that of our Northern States, so that there is a chance, at the South at least, that it may become naturalized. Otherwise it will not be very often seen probably in this country, as the flowers are neither sufficiently interesting nor sufficiently beautiful to justify any great trouble or expense in raising it. They are less beautiful than the flowers of the Victoria, which many of the Nymphæas far excel in charm and beauty. Mr. Goodell exhibited sections of the leaves of the *Euryale* before the Massachusetts Horticultural Society on the 11th of August.

Those horticultural visitors to New York this week who are interested in trees should make a point of seeing the *Magnolia hypoleuca* (see page 305 of this issue) on Eighty-seventh Street and East River, and the Japanese Elm (*Ulmus parvifolia*) in Central Park near the Seventy-second Street entrance from Fifth Avenue, which was also brought to this country by Mr. Thomas Hogg. These are certainly the two most interesting exotic trees on Manhattan Island, and they have, of their kinds, no equals in size in the United States, or perhaps in Europe. Prospect Park, too, in Brooklyn, should be visited. The public have a very inadequate idea of that park which is the most beautiful in the United States, and which is considered by good judges to be the best example of a large city-park now existing. Horticulturalists will find in it many rare and interesting trees. A specimen of the green-leaved Japanese Maple (*Acer polymorphum*), near the restaurant, has no equal, perhaps, in the United States, in size. On the main drive beyond the lake is certainly the finest specimen of the rare *Acer pictum* (*A. lætum* and *A. Colchicum rubrum* of some authors) in cultivation. The two Silver Lindens (*Tilia argentea* and *T. petiolaris*) are conspicuous features in Prospect Park, and may be seen there in greater profusion and beauty than elsewhere in the United States. The number of good specimens of some of the rarer Conifers in the Park is considerable also.